Application No.: 09/722923
Group Art Unit: 2178

Attorney Docket No.: SMQ-114RCE/P5635

REMARKS

Claims 1-59 are currently pending in this case. Claims 1, 9, 18 26, 35, 43, and 52 are independent. In the current amendment, claims 1, 9, 10, 18, 26-27, 35, 43, and 52 have been amended. No new matter has been added. Upon entry of the current amendment, claims 1-59 will be presently pending in this application, of which claims 1, 9, 18, 26, 35, 43, and 52 are independent. Applicants submit that pending claims 1-59 are in condition for allowance.

Indication of Allowable Claims

Applicants note with appreciation the Examiner's indication of allowable subject matter in claims 11, 12, 28, 29, 45 and 46, which were originally objected to for depending from a rejected base claim. However, as Applicants feel that the underlying independent claims as amended are now in condition for allowance (and the dependent claims are also therefore in allowance), Applicants have not re-written the allowable claims at this time.

Claim Amendments

Claims 1, 9, 10, 18, 26, 27, 35, 43, 44 and 52 have been amended to clarify and more fully appreciate the Applicants' claimed invention. The applicants have amended the independent claims to clarify that the objects in the database originate from multiple programming languages and/or that the objects that were initially instantiated in a first programming language may be retrieved and accessed by an application written in a second programming language.

Claims Rejected Under 35 U.S.C §103 As Being Unpatentable Over Bierman

Claims 1-10, 13-27, 30-44 and 47-59 were rejected under 35 U.S.C. 103(a) as being unpatentable over G.M. Bierman "Using XML as an Object Interchange Format". The rejections are respectfully traversed.

Summary of Claimed Invention

The claimed invention is directed towards managing objects in a database that stores structured documents representing objects. Applications implementing objects in different

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programming languages may store objects to or retrieve objects from the database. The instances of the objects may be implemented in a variety of programming languages, such as, but not limited to, Java, C, C++, and Fortran. These instances of objects are translated into a structured document compatible with the database. The structured document, such as an XML document, provides a representation of the instance of the object.

In maintaining objects in the structured document database, the claimed invention translates the instance of the object into a structured document. The structured document represents the instance of the object and the attributes and attribute values for the class of the object. The content of the structured document representing the object is stored in the database. In accessing objects in the database, the claimed invention requests access to an instance of an object from the database. The instance of the object is obtained from the database and a structured document is generated to represent the object including the attributes and attribute values of the class of the object. The structured document is returned in response to the request. After receiving the structured document, an object implemented in any programming language, including languages different from those in which the object was originally instantiated, is generated to embody the object represented by the structured document.

The claimed invention thus provides for maintaining objects implemented in different programming languages from different applications in an object database that stores structured documents representing the objects. This allows an object database to support multiple applications and multiple programming languages by storing objects in a structured document that represent the objects of the different programming languages. In this manner, applications using different programming language can share objects stored in the database.

Summary of Bierman

Bierman is an article that describes using XML as an Object Interchange Format (OIF) in conjunction with the standards of the Object Data Management Group (ODMG). Bierman is focused on proposing an alternative language and new XML document type of an Object Interchange Format Markup Language, OIFML, based upon XML. According to the ODMG standards, OIF is a specification language used to dump and load the current state of an ODMG-

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compliant object data management system (ODMS). For example, OIF can provide a file format for loading and unloading data from an ODMS. Bierman describes the details of the specification language of OIFML with respect to the structure and definition of objects and object attributes in an OIFML file.

Argument

Applicants respectfully submit that all of the independent claims as Amended are allowable. The independent claims have been amended to clarify that the database holds structured documents holding representations of objects originally instantiated in multiple different programming languages and/or which may be accessed and used by applications written in multiple programming languages. Applicants respectfully suggest that neither limitation is taught by the cited reference.

In contrast with the claimed invention, Bierman is not concerned with a request to store an instance of an object implemented in a first programming language into a database holding structured documents which hold representations of objects originally instantiated in multiple programming languages. Furthermore Bierman fails to teach or suggest the providing of a stored instance of an object into a structured document representing the instance of the object, wherein the structured document includes attributes and attribute values defined for a class. Additionally, Bierman fails to teach or suggest the adding of the content of the structured document into a database such that this information is eventually shared with a second application written in a programming language different from that in which the object represent in the database was originally instantiated. . Instead, Bierman discusses the details of the specification of the OIFML format, including the basis structure, object definitions and physical clustering. Applicants submit that the concept of OIFML physical clustering applies to the locating of an object in close proximity to another object as controlled by an XML attribute proximity definition. Physical clustering such as this is illustrated at page 3 of Bierman.

In view of the above, Applicants submit that Bierman does not teach or suggest all of Applicants claims as amended. Accordingly, Applicants respectfully submit that all of the claims as amended are now in condition for allowance.

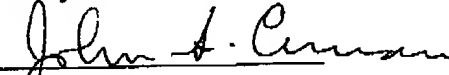14

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CONCLUSION

Applicants believe a three month extension fee in the amount of is due with this statement. However, if additional fees are due, please charge our Deposit Account No. 12-0080, under Order No. SMQ-114RCE from which the undersigned is authorized to draw.

Dated: October 19, 2005   Respectfully submitted,

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